



**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In application of

Docket No: Q78911

Shintaro WASHIZU, et al.

Appln. No.: 10/733,450

Group Art Unit: Not Yet Assigned

Confirmation No.: Not Yet Assigned

Examiner: Not Yet Assigned

Filed: December 12, 2003

For: TARGET DETECTING APPARATUS, TARGET DETECTION METHOD AND  
TARGET DETECTION SUBSTRATE

**INFORMATION DISCLOSURE STATEMENT**  
**UNDER 37 C.F.R. §§ 1.97 and 1.98**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure under 37 C.F.R. § 1.56, Applicant hereby notifies the U.S. Patent and Trademark Office of the documents which are listed on the attached PTO/SB/08 A & B (modified) form and/or listed herein and which the Examiner may deem material to patentability of the claims of the above-identified application.

One copy of each of the listed documents, other than any U.S. patents and patent publications, is submitted herewith.

The present Information Disclosure Statement is being filed: (1) No later than three months from the application's filing date; (2) Before the mailing date of the first Office Action on the merits (whichever is later); or (3) Before the mailing date of the first Office Action after

INFORMATION DISCLOSURE STATEMENT  
U.S. Appln. No.: 10/733,450

filing a request for continued examination (RCE) under §1.114, and therefore, no Statement under 37 C.F.R. § 1.97(e) or fee under 37 C.F.R. § 1.17(p) is required.

The submission of the listed documents is not intended as an admission that any such document constitutes prior art against the claims of the present application. Applicant does not waive any right to take any action that would be appropriate to antedate or otherwise remove any listed document as a competent reference against the claims of the present application.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Brett S. Sylvester", is written over a horizontal line.

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WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

Date: March 15, 2004

Substitute for Form 1449 A & B/PTO			<i>Complete if Known</i>	
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## U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Document Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document
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		US			
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## FOREIGN PATENT DOCUMENTS

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## NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city, and/or country where published.	Translation <sup>6</sup>
		"Control of Superfine Structure of Membrane and Their Characterization", Polymer, vo. 50, Takatoshi, KINOSHITA, Department of Engineering, Nagoya Institute of Technology, pp. 648-651, September 2001	YES
		"A Device for Visual Detection of Antigens and Antibodies by Means of Light Interference", Thin Solid Films, vol. 91, Takeyuki KAWAGUCHI et al, pp. 369-381, 1990	YES
		Color Tone Control By External Stimuli, Nagoya Institute of Technology, Imitating Function of Bio-skins Applicable to Display Devices, NIKKAN KOGYO SHINBUN, December 28, 2000, Japan	YES
		T. DOI et al., Symposium: Building of Molecular Composition and Its Function, Building and control of peptide type signal transfer function, A506, Nagoya Institute of Technology, Symposium held by JST, November 28, 2000, Japan	YES
		H. YOKOI et al., Preparation of Amphiphilic $\alpha$ -helix LB film, <u>Polymer Preprints, Japan</u> . Vol. 49 No. 12 IS07, Nagoya Institute of Technology, 2000, Society of Polymer Science, Japan	YES
		H. YOKOI et al., Evaluation of molecular orientation of amphiphilic $\alpha$ -helix water surface monomolecular film, <u>Polymer Preprints, Japan</u> , Vol. 49 No. 13 Iipd090, Nagoya Institute of Technology, 2000, Society of Polymer Science, Japan	YES
		Y. OKAHATA, Sensing of Odorous and Bitter Substances by using a Bilayer Molecular Film-coated Quartz Oscillator, <u>Biophysics</u> , Vol. 28. No. 6 Pandect, Tokyo Institute of Technology, 1988, Japan	YES
		Y. OKAHATA, Prospect for Chemical Information Conversion Membrane, Molecular Recognition to be realized on a Lipid Bilayer Molecular Membrane, <u>SEN-I GAKKAISHI (Fiber and Industry)</u> Vol. 46, No. 2 Feature: Functional Macromolecular Membranes Films, 1990, Japan	YES
		K. ARIGA et al., Evaluation of the Viscoelasticity of the Membrane with the Use of a Quartz Oscillator, Phase Transition of the LB film, Vol. 28 No. 11, Tokyo Institute of Technology, 1990, Japan	YES
		H. YOKOI et al., <u>The 48th Symposium on Macromolecules</u> , The Two Dimensional Orientation Control of Amphiphilic $\alpha$ -helix Molecule, II P f094, Nagoya Institute of Technology, October 6, 1999, Niigata, Japan	YES
		H. YOKOI et al., <u>The 49th Annual Meeting of the Society of Polymer Science, Japan (SPSJ)</u> , The pH Dependence of Molecular Orientation in Monolayer Composed of Amphiphilic $\alpha$ -helix Molecule at Air-water Interface, I Pg173, Nagoya Institute of Technology, May 29, 2000, Nagoya, Japan	YES
		H. YOKOI et al., <u>The 49th Symposium on Macromolecules</u> , Preparation of LB Film consisting of Amphiphilic $\alpha$ -helix Molecule, IS 07, Nagoya Institute of Technology, September 27, 2000, Sendai, Japan	YES

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		H. YOKOI et al., <u>The 49th Symposium on Macromolecules</u> , "Evaluation of molecular orientation of amphiphilic $\alpha$ -helix water surface monomolecular film", IIPd090, Nagoya Institute of Technology, September 27, 2000, Sendai, Japan	YES
		Y. NAGATA, et al., <u>The 43rd Annual Meeting of the Society of Polymer Science, Japan (SPSJ)</u> , "Preparation and Function of Polypeptide Containing a Substrate-binding Site at the Molecular Terminal", II-9-06, Nagoya Institute of Technology, and National Institute of Materials and Chemical Research, Tsukuba, May 26, 1994, Nagoya, Japan	YES
		H. HOSOKAWA et al., <u>The 44th Annual Meeting of the Society of Polymer Science, Japan (SPSJ)</u> , "Functional Control of Polypeptide Containing an Inclusion Terminal Group", II Pel 119, May 30, 1995, Yokohama, Japan	YES
		H. HOSOKAWA et al., "Functional Control of Polypeptide Containing an Inclusion Terminal Group", Preprints of Annual meeting of the Society of Fiber Science and Technology, Japan, G-264 3G17, June 29, 1995, Tokyo (Sen-I Gakkai)	YES
		H. HOSOKAWA et al., <u>45<sup>th</sup> Annual Meeting of Society of Polymer Science of Japan</u> , "Monolayer of polypeptide containing a cyclodextrin at the terminal, IIPb100, Nagoya Institute Technology, Nagoya and National Institute of Materials and Chemical Research, Tsukuba, May 29, 1996, Nagoya, Japan	YES
		H. HOSOKAWA et al., <u>45<sup>th</sup> Symposium of Society of Polymer Science of Japan</u> , Molecular orientation of polypeptide containing a cyclodextrin at the terminal in the monolayer and its function, 2Pb44, Nagoya Institute of Technology, October 2, 1996, Hiroshima, Japan	YES
		H. HOSOKAWA et al., <u>46th Annual Meeting of Society of Polymer Science of Japan</u> , Structural control of polypeptide containing an active site at the terminal in monolayer and its function", IIPb108, Nagoya Institute of Technology, May 24, 1997, Tokyo, Japan	YES
		A. KATO et al., <u>47th Annual Meeting of Society of Polymer Science of Japan</u> , Characterization of polypeptide monolayer containing the molecular recognition site, IIPd124, Nagoya Institute of Technology, May 29, 1998, Kyoto, Japan	YES
		A. KATO et al., <u>29th Annual Meeting of Union of Chemistry-Related Societies in Chubu Area, Japan</u> , Characterization of polypeptide monolayer containing a cyclodextrin at the terminal, 1B0705, Nagoya Institute of Technology, October 3, 1998, Toyohashi, Japan	YES

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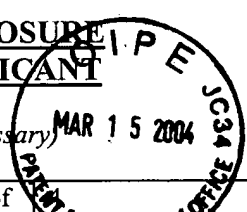
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		H. YOKOI et al., The control of molecular orientation in monolayer of amphiphilic $\alpha$ -helix, <u>Preprints presented at 15th Symposium of Membrane Science and Technology</u> , 3PA53, Nagoya Institute of Technology and Core Research for Evolutional Science and Technology, May 12, 1999, Chiba, Japan (Sen-I Gakkai)	YES
		T. DOI et al., <u>48th Symposium of Society of Polymer Science of Japan</u> , The molecular orientation and oscillation of polypeptide monolayer at oil/water interface, 111J02, Nagoya Institute of Technology and Core Research for Evolutional Science and Technology, October 8, 1999, Niigata, Japan	YES
		T. DOI et al., <u>Open Symposium of Creation and Functions of New Molecules and Molecular Assemblies sponsored by Core Research for Evolutional Science and Technology (CREST)</u> , Creation of peptide-type signal transmitting function and control of its function, A506, Nagoya Institute of Technology, November 28, 2000, at Japan Science and Technology Corporation (JST), Tokyo, Japan	
		"Molecular alignment of poly( $\gamma$ -methyl-L-glutamate) containing a $\beta$ -cyclodextrin at the terminal and molecular identification (n-hexane/water interface)", Control of molecular alignment of polypeptide molecular film published by Dr. Tomokiyo Doi, chapter 4, 2000	
		"The Control of Structure and Functions of LB-Film composed of Bio-Related Polymers", First International Symposium on Biometric Materials Processing, Tomokiyo DOI, et al., pp. 19, January 11, 2001	
		"Preparation of a Structural Color Forming System by Polypeptide-Based LB Films", The fourth NIMC International Symposium on Photoreaction Control and Photofunctional Materials, Takatoshi KINOSHITA, pp. 1-9 and 1-12, March 14, 2001	
		"Nano-Phase Separation in the Monolayer Composed of $\alpha$ -Helical Copolypeptide at Air/Water Interface," Chemistry Letters 2000, Hidenori YOKOI, et al., pp. 1210-1211, The Chemical Society of Japan	
		"The Molecular Recognition and Polypeptide Orientation in the Monolayer at Oil/Water Interface", 12 <sup>th</sup> Academic Symposium of MRS-Japan manuscripts., December 7, 2000, Kanagawa Y. MOURI, et al., p. 66	
		"The Molecular Orientation of a Peptide-based Amphiphile at Hexane/Water Interface", Chemistry Letters 1997, Hirofumi HOSOKAWA, et al., pp. 745-745, The Chemical Society of Japan	
		"The guest-induced oscillation of a monolayer composed of polypeptide containing $\beta$ -cyclodextrin at the terminal", Chaos, vol. 9, no. 2, 1999, T. KINOSHITA, et al., pp. 276-282, American Institute of Physics	

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		"Structural color forming system composed of polypeptide-based LB films", Nanotechnology and Nano-Interface Controlled Electronic Devices, T. KINOSHITA, et al., pp. 233-252, 2003	
		"Structural Color with Polypeptide LB Film", Transactions of the Materials Research Society of Japan 27 [3], T. MIYAGI, et al., pp. 555-558, 2002	
		"Polypeptide membranes at an interface", Prog. Polym. Sci., H. YOKOI, et al., pp. 341-357, 2003	

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